

We claim:

1. A method of cooling a multi-pole high speed generator having an axially bored shaft, a rotor mounted on the axially bored shaft having a plurality of poles and at least one support wedge positioned between each of the poles, comprising the steps of:

transferring a cooling medium from a first end of the shaft to a second end of the shaft;

transferring the cooling medium from at least one radially extending orifice in the shaft through one or more radial cooling medium galleries in an end cap at a second end of the rotor and through at least one axial channel in each of the at least one support wedge; and

returning the cooling medium from the at least one support wedge through one or more radial cooling medium galleries in the second end cap to a second radially extending orifice on the shaft to exit out the first end of the shaft.

2. A method of assembling a balanced high speed generator rotor having a plurality of poles and at least one support wedge mounted between each of the poles comprising the steps of:

placing an end cap over each end of a rotor body;

centering a bore in each of the end caps around a shaft that extends axially through the rotor body;

centering at least one support wedge under the inside of each end cap;

aligning a plurality of paired openings in the end caps with a plurality of paired openings in each end of each of the at least one support wedge;

shrink fitting the end cap over each end of the rotor body by shrink fitting the bore around the shaft and the axial ends of the at least one support wedge under each end cap;

inserting an axial screw through each one of the openings of the plurality of paired openings in the end caps to be received in the aligned paired openings in each end of the at least one support wedge;

testing the rotor on a balance machine; and

selectively inserting as required weight into at least one of a plurality of circumferentially spaced openings in the raised peripheral edge of each end cap to balance the rotor.